COLD ROLLED STEEL SHEET AND HOT DIPPED STEEL SHEET WITH SUPERIOR STRENGTH AND BAKE HARDENABILITY AND METHOD FOR MANUFACUTRING THE STEEL SHEETS

ABSTRACT

Disclosed herein are a bake-hardenable high-strength cold-rolled steel sheet, a hot-dipped steel sheet thereof, and a method for manufacturing the same. The steel sheet comprises 0.0016 ~ 0.01% of C; 0.1% or less of Si; 0.2 ~ 1.5% of Mn; 0.05 ~ 0.15% of P; 0.01% or less of S; 0.08 ~ 0.5% of (soluble) A1; 0.0025% or less of N; 0.003 ~ 0.1% of Nb; 0.003% of less ot Ti; 0.01 ~ 0.4% of Mo; 0.0005 ~ 0.005% of B; and the blance of Fe and other unavoidable impurities, in terms of weight %. The steel sheet has fine A1N precipitates, and a grain size (ASTM No.) of 9 or more. The A1N precipitates have a grain size, which can suppress grain growth. The steel sheet has enhanced strength, bake hardenability, aging resistance, and secondary work embrittlement resistance.